

We claim:

1. A method for treating a disorder characterized by excessive proliferation of tissue comprising
implanting a cell-matrix structure comprising a matrix having attached thereto an effective amount of cells stably expressing a gene encoding an anti-angiogenic molecule in an amount effective to inhibit or regress the excessive tissue proliferation,

wherein the cells are either genetically engineered to produce the anti-angiogenic molecule or of a different cell type than the tissue that has proliferated excessively and naturally produce the anti-angiogenic molecule.

2. The method of claim 1 wherein the disorder is selected from the group consisting of malignant and benign neoplasias, vascular, inflammatory conditions causing excessive proliferation of cells, keloid formation, intraperitoneal or intrathoracic adhesions, endometriosis, congenital or endocrine abnormalities, psoriasis, unwanted skin proliferation, rheumatoid arthritis, multiple sclerosis, unwanted angiogenesis of the eye, restenosis, and infections causing excessive proliferation of cells.

3. The method of claim 1 wherein the matrix is selected from the group consisting of fibrous scaffolds, polymeric hydrogels, and micromachine or micromolded substrates.

4. The method of claim 1 wherein the cells are selected from the group consisting of fibroblasts, tissue specific cells, progenitor cells, and stem cells.

5. The method of claim 4 wherein the cells are genetically engineered to produce the anti-angiogenic molecule.

6. The method of claim 5 wherein the anti-angiogenic molecule is thrombomodulin.

7. The method of claim 1 wherein the anti-angiogenic molecule is endogenous to the cells on the matrix and the cells are engineered to increase expression of the anti-angiogenic molecule.

8. A cell-matrix structure for implantation into a patient having attached thereto an effective amount of cells stably expressing a gene encoding

an anti-angiogenic molecule in an effective amount to inhibit or regress excessive tissue proliferation in a patient in need thereof, wherein the cells are either genetically engineered to produce the anti-angiogenic molecule or of a different cell type than the tissue that has proliferated excessively which produces the anti-angiogenic molecule.

9. The cell-matrix structure of claim 8 wherein the cells produce a anti-angiogenic molecule effective to treat a disorder is selected from the group consisting of malignant and benign neoplasias, vascular, inflammatory conditions causing excessive proliferation of cells, keloid formation, intraperitoneal or intrathoracic adhesions, endometriosis, congenital or endocrine abnormalities, psoriasis, unwanted skin proliferation, rheumatoid arthritis, multiple sclerosis, unwanted angiogenesis of the eye, restenosis, and infections causing excessive proliferation of cells.

10. The cell-matrix structure of claim 8 wherein the matrix is selected from the group consisting of fibrous scaffolds, polymeric hydrogels, and micromachine or micromolded substrates.

11. The cell-matrix structure of claim 8 wherein the cells are selected from the group consisting of fibroblasts, tissue specific cells, progenitor cells, and stem cells.

12. The cell-matrix structure of claim 8 wherein the cells are genetically engineered to produce the anti-angiogenic molecule.

13. The cell-matrix structure of claim 8 wherein the anti-angiogenic molecule is thrombomodulin.

14. The cell-matrix structure of claim 8 wherein the anti-angiogenic molecule is endogenous to the cells on the matrix and the cells are engineered to increase expression of the anti-angiogenic molecule.

15. The cell-matrix structure of claim 8 wherein the cells are selected based on natural production of the wherein the anti-angiogenic molecule is endogenous to the cells on the matrix and the cells are engineered to increase expression of the anti-angiogenic molecule and the cells are implanted at a site where the wherein the anti-angiogenic molecule is endogenous to the cells on the matrix and the cells are engineered to increase expression of the anti-

angiogenic molecule in an amount effective to inhibit proliferation or cause tissue regression.